875—62.2(88A) Design criteria. Structural materials and construction of rides and devices shall conform to recognized engineering practices, procedures, standards and specifications. The design, materials and construction features shall incorporate safety factors acceptable to the commissioner.

62.2(1) *Manufacturers' analyses.* Before a new amusement ride or amusement device is put into operation for the public's use, or whenever any additions or alterations are made which change the structure, mechanism, classification or capacity of any ride or device, the operator shall file with the commissioner a notice of the operator's intention and shall furnish design data, safety factors, materials utilized, stress analysis and other pertinent data deemed necessary by the commissioner. This information shall also be furnished by an operator for existing rides and devices if required by the commissioner. Stress analysis and other data pertinent to the design, structure, factors of safety or performance characteristics shall be in accordance with accepted engineering practices, acceptable to the commissioner and written in English. Data may be requested for, but not limited to, the following materials, parts or components of rides or devices: Structural materials, including bars, cables, chains, ropes, rods, tubing, pipes, girders, braces, fittings, fasteners, trusses, pressure vessels, pressure piping, gears, clutches, speed reducers, welds, bearings, couplings; carriers, such as tubs, cars, chairs, gondolas or seating and carrying apparatus of any description; axles; hangars; pivots; safety bars, belts, harnesses, chains, gates or other restraining, containing or retaining devices. Data shall be furnished at the request of the commissioner concerning forces generated by acceleration or deceleration, centrifugal action, inertia or other forces either constant, reversible or eccentric.

62.2(2) *Rating.* Manufacturers shall identify the capacity of an amusement ride or amusement device in terms of number of passengers and operating speed. This information may be included on the division's identification symbol.

62.2(3) *Seating and carrying devices.* Tubs, cars, chairs, seats, gondolas and other carriers used on rides or devices shall be designed and constructed as strong as practical. Their interior and exterior parts with which passengers may come in contact shall be smooth, rounded, free from sharp, rough or splintered edges or corners, and with no protruding screws or projections which might cause injury. Parts upon or against which passengers might be thrown by action of the ride shall be adequately padded to prevent or minimize the possibility of injury. Propellers or other moving parts or decorations attached to tubs, cars, chairs, seats, gondolas and other carriers shall be securely fastened to such equipment and keyed or otherwise secured so that they cannot come off during operation of the ride. Vanes, canopies or other attachments which might become disengaged shall be secured with safety straps to prevent their flying away in case of breakage or dislocation.

62.2(4) *Speed limiting.* An amusement ride or amusement device capable of exceeding its maximum safe operating speed shall be provided with a maximum speed-limiting device. Steam engines that require an overspeed throttle setting to initiate the operation are exempted.

62.2(5) *Brakes and stops.* On a ride or device where coasting renders the operation dangerous, either during the period while the ride or device is being loaded or unloaded or in case of power failure or other unforeseeable situation, a method of braking shall be provided. Where rollback may cause injury, anti-rollback devices shall be provided.

62.2(6) *Retaining, restraining and containing safety devices.*

a. Retaining safety devices. Tubs, cars, chairs, seats, gondolas or other carriers on a ride that depend upon a single means of attachment or support shall be equipped with safety retainers to prevent a carrier, if it becomes disengaged from its support or attachment, from being catapulted from the ride and to prevent any action of the carrier which might throw the occupants from the carrier. This rule only applies to rides, a ride design or situations determined to be hazardous by the commissioner.

b. Restraining and containing safety devices. Restraining devices used on tubs, cars, chairs, seats, gondolas or other carriers on a ride wherein the forces generated by the action of the ride require retention, restraint or actual physical support of the passenger shall be designed, constructed and installed to withstand impact and forces of a minimum of 850 pounds per passenger. On a ride or a ride design where, after inspection by the commissioner, it is deemed necessary to install safety devices to prevent accidental or inadvertent dislodgement of a passenger from any tub, car, chair, seat, gondola or other carrier, a containing device shall be installed to withstand the design loads.

62.2(7) *Motors, motor circuits and controllers.* Motors, motor circuits and controllers shall be manufactured, constructed and utilized in accordance with Article 430, National Electric Code, NFPA 70-1975. Any motor operating with greater than 50 volts shall have its frame grounded with a conductor which is connected to the service equipment grounding circuit.

62.2(8) *Safety stop circuits.* Electrical safety stop circuits shall be closed circuits so that in case of power failure or malfunction of any element the system will cause the ride or device to which the circuit pertains to fail safe. Circuits shall be all metallic and ungrounded unless otherwise approved by the commissioner. After actuation of a safety stop, the cause shall be determined and the situation corrected before operation of the ride or device is resumed. Safety stop circuits shall not be bypassed during operation.

62.2(9) *Master switch.* Each electrically operated amusement device shall be provided with a fused disconnect switch or circuit breaker placed within unobstructed reach of the ride operator. This subrule shall not apply to blowers for inflatable rides or to devices designed to be controlled directly by the public.

62.2(10) *Chains.* Chains with certified load carrying capacities may be utilized for safety devices or in stress bearing applications. Twisted wire or stamped chain shall not be used.

62.2(11) *Lock out.* A means shall be provided for locking out or securing rides or equipment for maintenance, repair or inspection. This can be a padlock latch on the master switch.

62.2(12) *Rebuilt or modified ride or device.* An amusement ride or device that is being considered for a major alteration shall be treated as a new ride subject to 62.2(1) to 62.2(11). The altered ride or device shall require an inspection prior to operation.

62.2(13) *Bungee jumping activities.* Bungee jumping activities shall be conducted pursuant to "1992 NABA Guidelines" as published by the North American Bungee Association and occupational safety and health rules adopted at 875—Chapter 10, "General Industry Safety and Health Rules," and 875—Chapter 26, "Construction Safety and Health Rules." If a conflict exists between the rules of the association and OSHA, the OSHA rules shall apply. Variances from the OSHA rules may be requested.